In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application

1. (Currently Amended) A magnetic stripe card reader for reading a magnetic stripe on a card having at least one track of magnetically stored information stored thereon as a stream of encoded discrete data bits separated by bit times, comprising:

a magnetic head for reading the magnetic pulses as the magnetic stripe is passed thereby to output a time varying analog signal;

a data converter incorporated on an integrated circuit for receiving and converting the raw analog signal to a digital time series of digital values representing the time varying analog value of the magnetic pulses; and

a processor incorporated on said integrated circuit for processing said digital output of said data converter and operable to:

~~determining~~ determine potential bit boundaries in the encoded data bits to define the digital values thereof,

recover timing information from said digital time series to discriminate the bit times between data bits, and

~~determining~~ determine the value of each data bit during each bit time to provide a stream of extracted data bits.

2. (Original) The reader of Claim 1, wherein said processor is further operable to decode the stream of extracted data bits to provide decoded information, said processor having a communication circuit associated therewith and incorporated on the integrated circuit and operable to interface with an external system for transfer of data thereto.

3. (Original) The reader of Claim 2, wherein the communication circuit comprises a serial communication circuit.

4. (Original) The reader of Claim 1, wherein said data converter comprises an analog-to-digital converter operating at a predetermined sampling rate for converting samples of the analog signal at the sampling rate to corresponding digital values.

5. (Original) The reader of Claim 4, wherein the data bits are stored on the magnetic

stripe as a series of positive and negative magnetic pulses and said processor includes a peak detector for detecting the presence of a magnetic pulse in the analog signal after conversion to the digital domain.

6. (Original) The reader of Claim 5, wherein said processor is further operable to filter the digital values with a low pass filter prior to processing by said peak detector.

7. (Original) The reader of Claim 1, wherein the stored data on the magnetic card is stored on a plurality of separate tracks, such that swiping of the magnetic card can allow for output of a plurality of streams of data at the same time, and further comprising a plurality of magnetic heads, each for reading the magnetic pulses of an associated one of said streams as the tracks are passed thereby to output a time varying analog signal for each of the tracks.

8. (Original) The method of Claim 7, wherein said data converter comprises an analog-to-digital converter operating at a predetermined sampling rate for converting samples of the analog signals at the sampling rate to corresponding digital values.

9. (Original) The method of Claim 8, wherein said analog-to-digital converter is multiplexed in operation to sample the outputs of each of the tracks and provide a separate time series of digital data

10. (Original) The method of Claim 9, wherein each of the tracks has a different amount of data associated therewith stored in bits per inch, such that the rate of data output from each of the tracks is different, and wherein at least one of the outputs from said plurality of magnetic heads is sampled at a different rate than the others thereof.